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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			EXAMINER RODRIGUEZ, RUTH C	
			ART UNIT	PAPER NUMBER
			3677	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/688,033	Applicant(s) MCDOUGALL ET AL.	
	Examiner Ruth C. Rodriguez	Art Unit 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements filed 31 December 2003 and 18 March 2005 have been considered for this Office Action.

Claim Objections

2. Claims 2, 3, 7,9-12, 28, 30-32, 34, 38 and 43-46 is objected to because of the following informalities:

- Claims 2, 3, 7,9-12, 28, 30-32, 34 and 43-46 contain terms that are written within parenthesis. It is unclear whether these claims are intended to have these limitations are part of the claims or not. The parenthesis should be removed if the terms are to be included as part of the claims. Otherwise, the terms should be eliminated from the claims.

- Claim 38, line 2, --mg-- should be inserted between 200 and the ending period.

Correction is required.

Claim Rejections - 35 USC § 102

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3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 2, 4, 7, 9-16, 19, 21-34, 36, 40-46 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Higashinaka (US 5,515,583).

A woven loop fastener product includes a fabric base (2) having ground yarns and comprising interwoven warp yarns and filling yarns extending respectively in warp and filling directions and pile yarns interwoven with the fabric base and forming engageable loops extending from one side of the fabric base for engagement with hooks (Figs. 3A and 3B). The pile yarns comprise filaments having a nominal diameter and wherein the pile yarn filaments extend from a near side of the fabric base to a mean loop height less than about 30 times the nominal pile yarn filament diameter (Figs. 1-7, 9 and 11).

Higashinaka also discloses that:

- The fabric base has an overall thickness, exclusive of the pile yarns, of less than about 0.010 inch (C. 5, L. 22-23).
- The fabric base has an overall thickness, exclusive of the pile yarns, of less than about 5 times the nominal pile yarn filament diameter (C. 5, L. 22-23 and C. 11, L. 67 and C. 12, L. 1-3).
- An overall thickness, as a sum of fabric base thickness and the mean loop height, is less than about 0.15 inch (Abstract).

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- The overall thickness is less than about 0.10 inch (Abstract).
- The overall thickness is less than about 0.070 (Abstract)
- The mean loop height is less than about 0.10 inch (Abstract).
- The mean loop height is less than about 0.06 (Abstract).
- The pile yarns each comprise multiple filaments (C. 7, L. 3-5).
- The pile yarns are each of between about 160 and 300 denier (C. 11, L. 67 and C. 12, L. 1-3).
- Each pile yarn filament is between about 10 and 30 denier (C. 11, L. 67 and C. 12, L. 1-3).
- Each pile yarn filament is between about 15 to 25 denier (C. 11, L. 67 and C. 12, L. 1-3).
- The ground yarns comprise multifilament yarns each having a denier of between about 70 and 140 (C. 11, L. 60-63).
- The mean loop height is less than about 27 times the nominal pile yarn filament diameter (Figs. 1-7, 9 and 11).
- The mean loop height is less than about 24 times the nominal pile yarn filament diameter (Figs. 1-7, 9 and 11).
- The woven loop fastener product further comprises a binder coat applied to a side of the product opposite the loops (Figs. 1-7, 9 and 11).

A woven hook fastener product including a fabric base (2) having ground yarns and comprising interwoven warp yarns and filling yarns extending respectively in warp and filling directions and hook filaments interwoven with the fabric base and forming

hooks extending from one side of the fabric base for engagement with loops (Figs. 1-7, 9 and 11). The hook filaments extend from a near side of the fabric base to a mean hook height of less than about 6.0 times a nominal diameter of the hook filaments (C. 11, L. 21-26 and Figs. 1-7, 9 and 11).

Higashinaka also discloses that:

- Each hook is formed by a severed hook filament loop extending out of the fabric base at two points separated by a span, measured along a line segment between centers of the hook filament at a near surface of the fabric base, and wherein each hook has a stance ratio, defined as a ratio of the span of the hook to an overall height of the hook from the near surface of the fabric base, of at least 50 percent (Figs. 1-7, 9 and 11).
- The stance ratio is at least 55 percent (Figs. 1-7, 9 and 11).
- Each hook is formed by a severed hook filament loop extending out of the fabric base at two points separated in both warp and filling directions (Figs. 1-7, 9 and 11).
- The fabric base has an overall thickness, exclusive of the hook filaments, of less than about 0.010 inch (C. 5, L. 22-23).
- The fabric base has an overall thickness, exclusive of the hook filaments, that is less than the nominal hook filament diameter (C. 5, L. 22-23 and C. 6, L. 57-59).
- An overall thickness, as a sum of fabric base thickness and the mean hook height, of less than about 0.075 inch (C. 6, L. 8-10).
- The mean hook height is less than about 0.065 inch (C. 6, L. 8-10).

- The mean hook height is less than about 0.05 inch (C. 6, L. 8-10).
- The hook filaments are drawn nylon monofilaments (C. 6, L. 57-59).
- The hook filaments are each between about 0.0065 to 0.009 inch in nominal diameter (C. 11, L. 21-25).
- The ground yarns comprise multifilament yarns each having a denier of between about 60 and 140 (C. 11, L. 18-21 and 60-62).

A woven hook fastener product includes a fabric base (2) having ground yarns and comprising interwoven warp yarns and filling yarns extending respectively in warp and filling directions and hook filaments interwoven with the fabric base and forming hooks extending from one side of the fabric base for engagement with loops (Figs. 1-7, 9 and 11). The fabric base has an overall thickness, exclusive of the hook filaments, that is less than the nominal hook filament diameter (C. 5, L. 22-23 and C. 6, L. 57-59).

Higashinaka also discloses that:

- Each hook is formed by a severed hook filament loop extending out of the fabric base at two points separated by a span, measured along a line segment between centers of the hook filament at a near surface of the fabric base, and wherein each hook has a stance ratio, defined as a ratio of the span of the hook to an overall height of the hook from the near surface of the fabric base, of at least 50 percent (Figs. 1-7, 9 and 11).
- The stance ratio is at least 55 percent (Figs. 1-7, 9 and 11).
- The fabric base has an overall thickness, exclusive of the hook filaments, of less than about 0.010 inch (C. 5, L. 22-23).

- An overall thickness, as a sum of fabric base thickness and the mean hook height, of less than about 0.075 inch (C. 6, L. 8-10).
- The mean hook height is less than about 0.065 inch (C. 6, L. 8-10).
- The hook filaments are each between about 0.0065 to 0.009 inch in nominal diameter (C. 11, L. 21-25).
- The ground yarns comprise multifilament yarns each having a denier of between about 60 and 140 (C. 11, L. 18-21 and 60-62).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashinaka.

Higashinaka discloses a woven loop fastener having all the features mentioned above in paragraph 4 for the rejection of claims 1 and 2. Higashinaka fails to disclose that the overall thickness is less than about 0.0075 inch. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the overall thickness being less than about 0.0075 inch since a change in the size of a prior art device is a design consideration within the skill of the art. In re Rose, 220

F.2d 459, 105 USPQ 237 (CCPA 1955). Especially since the application does not provide any criticality to this dimension and adjusting the dimensions of loop fasteners in order to obtain better engagement with its hook fastener counterpart is well known in the art.

Higashinaka also fails to disclose whether the pile yarns are in greige condition or unnapped condition. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made that the pile yarns of the woven loop fastener will either be in a greige condition or in an unnapped condition and that it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have the pile yarns in a greige or napped condition if one were to assume that the pile yarns disclosed by Higashinaka are in an unnapped condition or that the pile yarns in a unnapped condition if one were to assume that the pile yarns disclosed by Higashinaka are in an greige or napped condition because the Examiner takes official notice that the use of pile yarns in napped or greige condition and in an unnapped condition is well know in the woven loop fastener art.

7. Claims 17, 18, 20, 35, 37, 38 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashinaka in view of Shepard et al. (US 2002/0029441 A1)

Higashinaka discloses a woven loop fastener and a woven hook fastener having all the features mentioned above in paragraph 4 for the rejection of claims 1, 24 and 40. Hagashinaka fails to provide the tenacity for the pile yarn filament and for the hook filament. However, Shepard teaches a loop fastener having filaments (Figs. 1-11A). The filaments can have a tenacity between 2.8 grams per denier to 8 grams per denier

depending on its use (Page 1, Paragraph 0011). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have filaments with a tenacity of at least 3.5 for the loop fastener disclosed by Hagashinaka that can be severed in order to obtain the hook fastener as disclosed by Hagashinaka in accordance with the teachings of Shepard. Doing so, is well known in the hook and loop fastener art where filaments are being used and the tenacity depends on the use intended for the fastener.

Higashinaka also fails to disclose the Gurley stiffness of the loop fastener and of the hook fastener. However, Shepard also teaches that the loop fabric can have a stiffness of less than 300 milligrams. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a Gurley stiffness of less than 200 milligrams for the loop fastener and a Gurley stiffness of less than 500 or 200 milligrams for the hook fastener (which is made by severing the loops of the loop fabric) in accordance with the teaching of Shepard for the loop fastener and the hook fastener disclosed by Higashinaka. Doing so, is well known in the hook and loop fastener art as taught by Shepard.

8. Claims 6, 39 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higashinaka in view of Goulait (US 5,326,612).

Higashinaka discloses a woven loop fastener having all the features mentioned above in paragraph 4 and 6 for the rejection of claims 1 and 5. Higashinaka fails to disclose that the loop fastener has a basis weight being less than about 300 grams per square meter. However, Goulait teaches a woven loop fastener (22) having fabric base

having a weight between 6 and 42 grams per square meter (Abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a hook fastener or a loop fastener with a weight of about 300 grams per square meter for the loop fastener disclosed by Hagashinaka that can be severed in order to obtain the hook fastener as disclosed by Hagashinaka in accordance with the teachings of Goulait. Doing so, is well known in the hook and loop fastener art as taught by Goulait.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Maestral (US 3,083,737), De Brabander (US 3,943,981), Higashinaka (US 4,920,617), Okawa et al. (US 5,349,991 and US 5,745,961), Fink et al. (US 5,870,827), Hagashinaka (US 6,386,242), Kondo et al. (US 6,565,943) and Wang et al. (US 2002/0185182 A1) are cited to show state of the art with respect to woven loop fastener and woven hook fasteners having some of the features being claimed by the current application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruth C Rodriguez whose telephone number is (571) 272-7070. The examiner can normally be reached on M-F 07:15 - 15:45.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on (571) 272-7075.

Submissions of your responses by facsimile transmission are encouraged. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase the patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as PTO's mailroom processing and delivery time. For a complete list of correspondence **not** permitted by facsimile transmission, see MPEP § 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee that the applicant is paying by check **should not be** submitted by facsimile transmission separately from the check.

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(Signature)

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If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP § 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response has been transmitted by facsimile will cause further unnecessary delays in the processing of your application, duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-6640.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ruth C. Rodriguez
Patent Examiner
Art Unit 3677

rcr
June 24, 2005